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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,089	12/15/2003	Ajith K. Kumar	132250NP/GETS 5314.1	3281

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SENNIGER POWERS
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER	
MANCHO, RONNIE M	

ART UNIT	PAPER NUMBER
3663	

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,089	KUMAR ET AL.	
	Examiner	Art Unit	
	Ronnie Mancho	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,8,14-26 and 50-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,8,14-26,50-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3, 8, 14-26, 50-62 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claims, the applicant claims "optimizing" or "optimize". The specification is insufficient in determining, "optimizing", "optimization parameter", "actual", "assumed operational parameters ", "actual operating parameters", or "optimize". It is not clear what all is meant and encompassed by, "optimizing", "optimization parameter", "actual", "assumed operational parameters", "actual operating parameters", or "optimize". The rest of the claims are rejected for depending on a rejected base claim.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note for example the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 1 recites the broad recitation, "a railroad track network level configured to control an operation of a railroad track network within the railroad track

network level, wherein the railroad track network level is a sub-level of said railroad infrastructure level" which is the narrower statement of the range/limitation.

As another example, the applicant further recites, "a train level configured to control an operation of a train operating within *the train level*, wherein the train level is a sub-level of said railroad track network level;

It is further noted that applicant's specification is insufficient in determining the above limitations for one skilled in the art to ascertain the metes and bounds of the claims. Referring to applicant's specification, section 0037 recites,

> "The railroad infrastructure level 100 includes:
>
> the lower levels of track network 200, train 300, consist 400 and locomotive level 500. In addition, the infrastructure level 100 contains other internal features and functions that are not shown, such as servicing facilities, service sidings, fueling depots, wayside equipment, rail yards, train crews operations, destinations, loading equipment (often referred to as pickups), unloading equipment (often referred to as set-outs), and access to data that impacts the infrastructure, such as: railroad operating rules, weather conditions, rail conditions, business objective functions (including costs, such as penalties for delays and damages en-route, and awards for timely delivery), natural disasters, and governmental regulatory requirements. These are features and functions that are contained at the railroad infrastructure level 100. Much of the railroad infrastructure level 100 is of a permanent basis (or at least of a longer term basis). Infrastructure components such as the location of wayside equipment, fueling depots and service facilities are not subject to change during the

course of any given train trip".

Section 0042 of the specification recites,

"The railroad track network level 200 includes not only the track layout, but also plans for movement of the various trains over the track layout."

Section 0057 of the specification recites,

"While the train level 300 may comprise a long train with distributed consists, each consist with several locomotives and with numerous cars between the consists, the train level 300 may be of any configuration including more complex or significantly simpler configurations. For example, the train may be formed by a single locomotive consist or a single consist with multiple locomotives at the head of the train both of which configurations simplify the levels".

It is not clear how "the track layout" described as a feature of the railroad track network level 200 is described as "containing one or more train levels"; wherein the "train level" contains one or more "consist levels"; wherein the "consist level" contains "one or more locomotives". As another example is not understood how "awards for timely delivery", "weather conditions", described as features of the railroad infrastructure level contains "the track layout", a feature of the railroad track network level, etc.

The rest of the claims are rejected for depending on a rejected base claim.

In claim 3, it is not clear what all is meant and encompassed by "based at least in part thereon".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 8, 14-26, 50-62 rejected under 35 U.S.C. 102(b) as being anticipated by Polivka et al (5828979)

Regarding claim 1, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose a system for management of a multi-level railway system and its operational components, the railway system comprising:

a first processor 200 associated with a railroad infrastructure level configured to control an operation of a railroad infrastructure operating within the railroad infrastructure level;

a second processor 210 associated with a railroad track network level configured to control an operation of a railroad track network (col. 4, lines 64-67) within the railroad track network level, wherein the railroad track network level is a sub-level of said railroad infrastructure level;

a third processor 206 associated with a train level configured to control an operation of a train (operating within the train level, wherein the train level is a sub-level of said railroad track network level;

a fourth processor 204 associated with a consist level configured to control an operation of a consist of a train within the consist level, wherein the consist level is a sub-level of said train level; and

a fifth processor 208 associated with a locomotive level configured to control an operation of a locomotive within the locomotive level, wherein the locomotive level is a sub-level of said consist level;

each processor associated with each level being configured to provide to the processor associated with at least one other level operational parameters that define operational characteristics and data related to the level with which it is associated; and

each processor optimizing the operation within its associated level and to cooperate with a processor associated with at least one other level to optimize an operation of the multi-level railway system across all the levels of the railway system (col. 5, lines 46-64).

Regarding claim 3, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose the system of claim 1 wherein the first processor associated with the railroad infrastructure level receives railroad infrastructure data and controls an operation of a railroad infrastructure within the railroad infrastructure level based at least in part on the received infrastructure data, the railroad track network data, and the received train data..

Regarding claim 8, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) disclose the system of claim 1 in which the first processor associated with a railroad infrastructure provides output instructions including infrastructure optimization instructions

Regarding claim 14, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose a multi-level system for management of a railway system and its operational components, the railway system comprising:

a first level (col. 4, lines 39-67; col. 5, lines 1-64) configured to optimize an operation within the first level, said first level including first level operational parameters defining operational characteristics and data of the first level; and

a second level (col. 4, lines 39-67; col. 5, lines 1-64) configured to optimize an operation within the second level, said second level including second level operational parameters defining the operational characteristic and data of the second level over time, wherein the second level is a sub-level of said first level;

said first level providing the second level with the first level operational parameters (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64), and the second level providing the first level (see signal flow, figs. 2, 4-14) with the second level operational parameters; and

said optimizing the operation within the first level and said optimizing the operation within the second level each being a function of optimizing a system optimization parameter (col. 4, lines 39-67; col. 5, lines 1-64).

Regarding claim 15, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the system optimization parameter is indicative of fuel usage in the railway system.

Regarding claim 16, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the system optimization parameter is an economic valuation of the time of delivery of cargo carried in the railway system.

Regarding claim 17, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the operational parameters are provided from one level to the other at predetermined intervals.

Regarding claim 18, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) the system of claim 14 wherein the operational parameters are indicative of predetermined changes in conditions.

Regarding claim 19, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67) system of claim 18 wherein the operational parameters are indicative of a rate of change in the conditions.

Regarding claim 20, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 19 wherein the rate of change is with respect to time (col. 7, lines 29-49).

Regarding claim 21, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 19 wherein the rate of change is the change in one condition with respect to another (col. 7, lines 39-67).

Regarding claim 22, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 14 wherein an extent of compliance of the second level with the system optimization parameter is communicated periodically from the second level to the first level for adjusting the first and second level operational parameters based thereon.

Regarding claim 23, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 14 wherein at least one of the operational parameters is an assumed operational parameter.

Regarding claim 24, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 14 wherein at least one of the operational parameters is an actual operational parameter.

Regarding claim 25, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 14 wherein at least one of the operational parameters is based on an anticipated operational condition.

Regarding claim 26, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 22 wherein optimizing the operation within the first level and optimizing the operation within the second level includes identifying key operating constraints and data at one of the first and second level and communicating these constraints and data to another of the first and second level to optimize performance at the another level.

Regarding claim 50, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose a system for management of a railway system and its operational components, the railway system comprising:

a first level (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64) including first level operational parameters defining operational characteristics and data of the first level; and

a second level (col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64) including second level operational parameters configured to optimize an operation within the second level and wherein the second level operational parameters are indicative of changes in operational characteristics and data of the second level over time (col. 7, lines 3-67; col. 8, lines 1-67), wherein the second level is a sub-level of said first level; and

said second level providing the first level with optimized second level operational parameters (see signal exchange, figs. 2, 4-14).

Regarding claim 51, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein said optimizing the operation within the second level is a function of optimizing a railway system optimization parameter.

Regarding claim 52, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the system optimization parameter is indicative of a change in fuel usage in the railway system.

Regarding claim 53, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the system optimization parameter is a change in an economic valuation of the time of delivery of cargo carried in the railway system.

Regarding claim 54, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level operational parameters are provided from the second level to the first at predetermined intervals.

Regarding claim 55, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level is a portion of the first level.

Regarding claim 56, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 51 wherein the system operational parameter is indicative of a rate of change in second level operational parameters.

Regarding claim 57, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 56 wherein the rate of change is with respect to time.

Regarding claim 58, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 56 wherein the rate of change is the change in one condition with respect to another.

Regarding claim 59, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level operational parameters are assumed operational parameters.

Regarding claim 60, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level operational parameters are actual operational parameters.

Regarding claim 61, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the second level operational parameters are based on an anticipated operational condition.

Regarding claim 62, Polivka et al (figs. 2, 4-14; col. 4, lines 39-67; col. 5, lines 1-64; col. 6, lines 36-64; col. 7, lines 3-67; col. 8, lines 1-67) disclose the system of claim 50 wherein the first level monitors whether or not the optimized second level operation is within predetermined limits.

6. The statements of intended use or field of use, "operating within", "optimizing", or "provides", clauses are essentially method limitations or statements of intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably

distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647 Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Response to Arguments

7. Applicant's arguments filed 5/15/06 have been fully considered but they are not persuasive.

The applicant is arguing that the term "optimizing" or "optimize" is clearly provided in the specification. The rejection was not whether the term was provided or not in the specification, but that one skilled in the art cannot ascertain the metes and bounds of "optimizing" as claimed.

The applicant further argues that the phrase "assumed operational parameters" is clear. The examiner disagrees. One skilled in the art cannot ascertain the metes and bounds of "assumed operational parameters" as claimed.

The applicant further argues that the phrase "actual operating parameter" has been changed to "actual operational parameters" and thus believes that the rejection to "actual operating parameter" has been overcome. The examiner disagrees and further notes that One skilled in the art cannot ascertain the metes and bounds of "actual operational parameters" as claimed. The switching around of words and trying to twist the meaning thereof to another meaning not disclosed in the disclosure is impermissible.

The applicant further argues about "railroad infrastructure". The examiner did not reject the argues phrase, but rejected the manner in which the phrase was claimed in connection with the other limitations in the claims to render the claims without meets and bounds. As an example the applicant provided many dictionary meanings of the argued phrase, but the context in which the argued phrase was disclosed in the specification and claims, render the invention with no meted and bounds. Support of the claims having no metes and bounds can be seen from the many definitions applicant has provided; however, none of the definitions was chosen or cited in the disclosure by the applicant. It is in response to the rejection that the applicant is attempting to provide a meaning for the argued limitation. The amended claims have not remedied the rejections.

Applicant's arguments about the prior art not disclosing the limitations in the claims are not persuasive since the 112 issues have not been resolved. Applicant's arguments are focused on the limitations having 112 issues. As an example, the applicant is arguing that he prior art does not disclose "a system for optimizing the operation of various operational levels of a multi-train rail system.....". etc. In response, it is not clear what all is meant and encompassed by

"optimizing the operation of". One skilled in the art cannot ascertain the metes and bounds thereof.

It is believed that the prior art anticipates the claims and the rejection stands.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronnie Mancho
Examiner
Art Unit 3663

August 4, 2006

JACK KEITH
SUPERVISORY PATENT EXAMINER